

Remarks/Arguments:

Claims 1-67 are pending in the above-identified application. Claims 1-31 have been withdrawn. Claims 32-67 stand rejected. By this Amendment, claim 64 is cancelled.

Objections to the Drawings

Figures 4, 8(1), 8(2), 14, 23, and 24 have been objected to as lacking a prior art legend. By this Amendment, FIGS. 4, 14, 23, and 24 have been amended accordingly to include a prior art legend. Favorable reconsideration is respectfully requested.

Figures 8(1) and 8(2) of the present application are also described in Japanese Patent Application No. 09/067,653 which was published in Japan as Publication No. 10/271,440 on October 9, 1998. The present application, however, has a priority date of July 31, 1998, on which date Japanese Patent Application No. 10/217,274 was filed in Japan. Thus, Japanese Patent Pub. No. 10/271,440 is not prior art to the present application. By this Amendment, Applicants amend the specification to remove the discussion of FIGS. 8(1) and 8(2) appearing at page 20, line 4 through page 21, line 5, in the "BACKGROUND ART" section and insert this discussion in the specification on page 87, after line 6, before the present discussion of FIGS. 8(1) and 8(2). Applicants have not amended FIGS. 8(1) and 8(2) to include prior art legends. Because the background section no longer includes a discussion of FIGS. 8(1) and 8(2), Applicants respectfully request that the objections to these figures be withdrawn.

Finally, FIGS. 7(1) and 7(2) have been amended to include a prior art legend.

Rejections under 35 U.S.C. § 112

Claims 38, 52, and 59 have been rejected for reciting "and/or." By this Amendment, claims 38, 52, and 59 are amended to change the recitations of "and/or" to "or." Accordingly, Applicants respectfully request that the rejections of claims 38, 52, and 59 and the claims noted on page 3, paragraph 5, of the Office Action be withdrawn.

Claims 35, 45, and 58 have been rejected for inclusions of recitations of "said driving or said stopping of the driving, respectively, means..." or "said driving means..." By this Amendment, Applicants amend these claims to remove the recitations of "means." Basis for these amendments may be found throughout the specification and, more specifically, at page 109, lines 16-19. Favorable reconsideration is respectfully requested.

Claims 47, 53, and 64 have been rejected for reciting "wherein a device number is used instead of said node number." By this Amendment, claim 64 is canceled and claims 47 and 53 are amended to replace the recitation with "wherein each of said node numbers is a device number." Basis for these amendments may be found throughout the specification and, more specifically, at page 110, lines 9-11. Favorable reconsideration is respectfully requested.

Rejections under 35 U.S.C § 103(a)

The present invention comprises a computer connected to a plurality of terminal devices via a network. When a network is reset, the terminal devices establish node numbers for themselves. Because a device may be assigned a different node number upon reset than it had prior to reset, the computer should ascertain the new node number assignments. To do so, the computer sends a command for operation or an end to operation to each node number. Depending upon which terminal device operates according to the command, the computer builds a list of associations between node numbers and terminal devices. In this way, the computer learns which node numbers have been assigned to which terminal devices.

Claims 32-33, 36-44, 46-57, and 59-67 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukunaga et al. (U.S. Patent No. 6,603,737) ("Fukunaga") in view of Yoshino et al. (U.S. Patent No. 6,691,150) ("Yoshino"). It is respectfully submitted, however, that the claims are patentable over the art of record for the reasons set forth below. Accordingly, these rejections are respectfully traversed.

Argument

Applicants' invention, as recited by claim 32, which is amended to clarify features of the claim, includes features which are neither disclosed nor suggested by the art of record, namely:

said computer sends out said command with an automatically assigned node number while sequentially changing the node number to a number other than a node number of said computer

This feature is found in the originally-filed application at page 108, lines 2-5 and FIG. 16. No new matter has been added.

As described in Fukunaga, when devices are added or removed from an IEEE network, the IEEE bus is automatically reset, i.e. the network construction is reset, and a new construction is recognized. (See col. 7, lines 13, col. 8, lines 36-47). The reset process begins with a node, which corresponds to a device in the IEEE network, detecting a change in construction in the network and sending out a bus-reset signal which is eventually received by all other nodes. (See col. 8, lines 36-53).

Fukunaga, at col. 8, line 62 through col. 11, line 67, describes a process by which each node in the IEEE network is assigned a node number after the network is reset. The process begins with the parent-child relationship between nodes being determined and the root being established. (See col. 9, line 33 - col. 10, line 6, col. 11, lines 5-45). Then, the root node assigns node IDs to all nodes. (See col. 10, lines 7-63, col. 11, lines 46-67). The node numbers begin at 0, for the first node receiving an assignment, and increase for every next node assigned a number. (See col. 11, lines 53-55).

Fukunaga does not disclose "said computer sends out **said command** with an automatically assigned node number **while sequentially changing the node number** to a number other than a node number of said computer," as recited in claim 32. (emphasis added). As argued above, Fukunaga describes a process in which the root assigns node numbers to the nodes in an IEEE network. The Office Action contends that the "bus reset and assignment of a node number are interpreted as command (sic) for the terminal devices to send a node unique ID." (See Office Action, page 5, lines 1-3). Applicants respectfully assert that this is an incorrect interpretation of "command," as clarified in the amendments to claim 32. A

bus reset signal is not a "command for operating or stopping an operation of said terminal device" because it does not instruct a device to operate or cease operation. Instead, a bus-reset signal is a notification that the network construction has changed. For similar reasons, the assignment of a node number is not a "command for operating or stopping an operation of said terminal device." Instead, an assignment of a node number is a response by the root to a request by a node for a node number. (See col. 10, lines 13-20, 37-38). The assignment of a node number does not result in the node device operating or stopping an operation. Thus, the bus network signal does not disclose the command recited in claim 32.

Even if one were to interpret, *arguendo*, that the bus reset signal of Fukunga discloses the "command" recited in claim 32, the device sending out the bus reset signal in Fukunaga does not do so "while sequentially changing the node number to a number other than a node number of said computer." Instead, in Fukunaga, each device monitors for the receipt of a bus-reset signal (See col. 9, lines 3-4), and when a device receives a bus-reset signal, it forwards it on. (See col. 8, lines 48-52). Fukunaga is silent as to how the bus-reset signal is forwarded. One is inclined to believe that it is forwarded as a general broadcast signal with no specific node numbers identified as destinations because after reset, the nodes in the network are not aware of the node numbers of the connected devices because node numbers have not yet been assigned in the new network construction. Therefore, Fukunaga does not describe that the device sends the command "while sequentially changing the node number to a number other than a node number of said computer."

Further, even if one were to interpret, *arguendo*, that the assignment of node numbers in Fukunga discloses the "command" recited in claim 32, the root only assigns the node numbers in response to a request by a device for a node number. The device which sends out the request for the assignment and the root which replies do not do so "while sequentially changing the node number to a number other than a node number of said computer." Instead, the device only sends its request to a single node (the root) and the root only replies to a single node in response to each assignment request. Therefore, Fukunaga does not describe that the device or root sends the command "while sequentially changing the node number to a number other than a node number of said computer."

Yoshino does not supply the material that is missing from Fukunaga. Yoshino describes an IEEE network in which connected devices report their own device names to other connected devices after the devices determine their own ID numbers. (See col. 4, lines 34-52). More specifically, Yoshino describes two methods by which the devices report their device names to the other devices in the IEEE network. (See col. 4, lines 53-54). In a first method, after each device determines its own number (See col. 4, lines 44-46), each device broadcasts its node number and device name to all other devices. (See col. 4, lines 55-59). In a second method, IRD 102 requests all devices to send their device names (and presumably also device numbers, though not stated), to IRD 102. (See col. 5, lines 3-12). The broadcast message (found in the first method) and the request made by IRD 102 for the devices to report their device names and numbers (found in the second method) do not disclose the "command" recited in claim 32 because the request in Yoshino is not a "command for operating or stopping an operation of said terminal device." The broadcast message and the request do not instruct the devices to operate, but instead inform the devices or request them to return information. Additionally, because IRD 102 does not know of the node numbers before the request, it cannot cycle through the sequence of node numbers while sending the command. Therefore, Yoshino does not describe that IRD 102 sends the command for device names and numbers "while sequentially changing the node number to a number other than a node number of said computer."

Accordingly, for the reasons set forth above, claim 32 is patentable over the art of record. Favorable reconsideration is respectfully requested.

Applicants' invention, as further recited by claim 33, which depends from claim 32, includes additional features which are neither disclosed nor suggested by the art of record, namely:

said operation or said stopping of the operation is monitored,

correspondence between the node number sent out together with said command and a timing of said driving operating or said stopping of the driving operation based on the timing of the command thus sent out is recognized

Fukunaga does not describe monitoring the operation of an IEEE device in a network to ascertain which node number corresponds to the operating device. Instead, as described above, Fukunaga describes the process of network reset and node number assignment. Furthermore, Fukunaga does not disclose recognizing the correspondence between a node and a node number based on which terminal device operates or stops operating after a command is sent by a computer. Accordingly, Fukunaga does not disclose the features of claim 33.

Yoshino also does not describe the above-quoted features of claim 33. Yoshino does not disclose monitoring the operation of an IEEE device in a network to ascertain which node number corresponds to the operating device. Instead, in Yoshino, each device is tracked in IRD 102 by the device's name which each device reports to IRD 102. (See col. 5, lines 3-15, 58-60). Accordingly, Yoshino does not disclose the features of claim 33.

Accordingly, for the reasons set forth above, claim 33 is patentable over the art of record. Favorable reconsideration is respectfully requested.

Claims 34-39 and 44-45 include all of the features of claim 32 from which they ultimately depend. Thus, claims 33-39 and 44-45 are also patentable over the cited art for the reasons set forth above.

Claims 40, 50, 56, and 60 while not identical to claim 32, include features which are similar to claim 32. Accordingly, for the reasons set forth above, claim 40 and claims 41-43 which depend from claim 40, claims 50 and claim 51, which depends from claim 50, claims 56 and claims 57-58 and 62, which depend from claim 56, and claims 60 and 61, which depends from claim 60, are patentable over the art of record.

Claims 46-49 includes all of the features of claims 32 or 40 from which they ultimately depend. Thus, claims 46-49 are also patentable over the cited art for the reasons set forth above.

Claim 52

Claim 52 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukunaga in view of Yoshino. It is respectfully submitted, however, that claim 52 is patentable over the art of record for the reasons set forth below. Accordingly, this rejection is respectfully traversed.

Argument

Applicants' invention, as recited by claim 52, which is amended to improve the clarity of the claim, includes a feature which is neither disclosed nor suggested by the art of record, namely:

a command for requesting a node unique ID to said terminal devices . . .

The Office Action contends that Fukunaga, at col. 11, lines 50-53 and col. 12, lines 20-26, disclose the above-quoted claim features. Applicants respectfully disagree.

Col. 11, lines 50-53 Fukunaga discloses that after bus reset, each node in the IEEE network broadcasts its **node number** to all other nodes. First, this broadcast is not a command for anything to operate because the other nodes are not requested to reply or operate. Second, this broadcast is not a request for a node unique ID. A node unique ID is defined in the IEEE 1394 standard as a 64-bit number that is unique within the global context of all serial bus nodes, i.e. the node unique ID is globally unique to each device. A node number and a node unique ID are not the same in the IEEE 1394 standard. Accordingly, a node number does not disclose a node unique ID and the broadcast of the node number in Fukunaga does not disclose "command for requesting a node unique ID to said terminal devices," as required by claim 52.

Accordingly, for the reasons set forth above, claim 52 is patentable over the art of record. Favorable reconsideration is respectfully requested.

Claims 53-55 include all of the features of claims 50-52 from which they ultimately depend. Thus, claims 53-55 are also patentable over the cited art for the reasons set forth above.

Application No.: 09/744,885
Amendment Dated: May 30, 2006
Reply to Office Action of: February 28, 2006

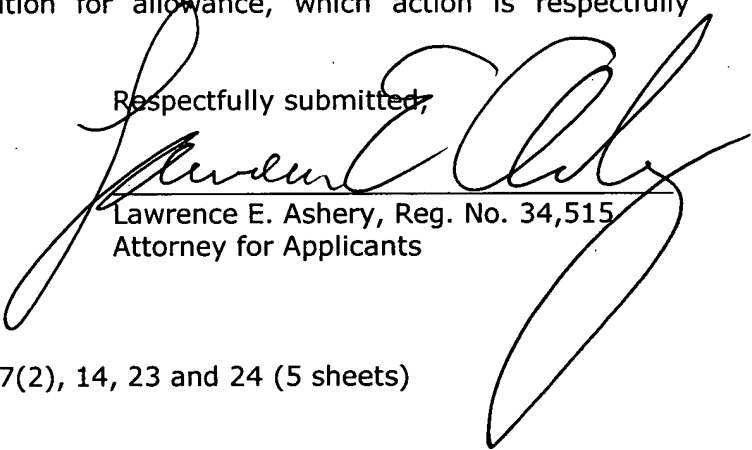
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Claims 59 and 67, while not identical to claim 52, include features which are similar to claim 32. Accordingly, for the reasons set forth above, claims 59 and 67 are patentable over the art of record.

Claims 63-66 include all of the features of claims 56, 57, 59-61 from which they depend. Thus, claims 63-66 are also patentable over the cited art for the reasons set forth above.

In view of the amendments and arguments set forth above, the above-identified application is in condition for allowance, which action is respectfully requested.

Respectfully submitted,


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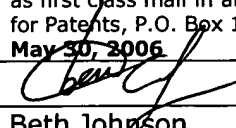
Attachments: Figures 4, 7(1) and 7(2), 14, 23 and 24 (5 sheets)

Dated: May 30, 2006

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May 30, 2006


Beth Johnson

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Application No.: 09/744,885
Amendment Dated: May 30, 2006
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MTS-3234US

Amendments to the Drawings:

The attached sheets of drawings includes changes to Figures 4, 7(1) and 7(2), 14, 23 and 24. These sheets replace the original sheets.